

SECTION-C

Note: Long answer type questions. Attempt any three questions. 3x10=30

- Q.3 With the help a neat labelled sketch explain construction of differential.
- Q.4 Explain working of 2 stroke diesel engine.
- Q.5 Write briefly the methods of preventing vibrations.
- Q.6 Briefly explain the working of four stroke petrol engine.
- Q.7 Explain dynamic balancing.

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4th Sem. / T&D / Production

Subject : Basics of Mech Engg.

Time : 3 Hrs.

M.M. : 100

SECTION-A

Note: Very Short Answer type questions. Attempt any 15 parts. (15x2=30)

- Q.1 a) Write the names of four processes of Diesel cycle.
- b) Define follower which is used in cam and follower arrangement.
- c) What is the form of energy stored in fly wheel?
- d) Name any four principal parts of I.C engine.
- e) State first law of thermodynamics.
- f) What do you understand by thermal equilibrium?
- g) What is the function of clutch?
- h) Define swept volume of I.C engine?

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- i) Define compression ratio.
- j) State third law of thermodynamics.
- k) Define vibrations.
- l) Write the function of brakes.
- m) Name two types of fly wheels.
- n) If speed of 4-stroke engine is 2000 r.p.m. Find the speed of cam shaft and crank shaft.
- o) Write Kelvin planck statement.
- p) What do you understand by balancing?
- q) Draw neat sketch of open belt drive.
- r) If teeth on driving and driven gears are 30 and 60 respectively and speed of driving gear is 400 r.p.m, find the speed of driven gear.

SECTION-B

Note: Short answer type questions. Attempt any ten parts 10x4=40

- Q.2 i) Draw p-v diagram of Otto cycle & write the names of the processes.

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- ii) Write four differences between S.I and C.I engines.
- iii) With the help of sketch explain transverse vibrations.
- iv) Write the harmful effects of vibrations.
- v) Write need of balancing.
- vi) Compare cross-belt drive with open belt drive.
- vii) Draw gear drive sketch and explain it.
- viii) Name three types of clutches.
- ix) Name three types of brakes.
- x) Draw sketches of two types of followers.
- xi) Define coefficient of fluctuation of energy.
- xii) Compare belt drive with gear drive.
- xiii) Write in brief the classification of I.C engines.
- xiv) Draw sketches of two types of fly wheels.
- xv) Write briefly the classification and types of brakes.

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